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10/678,523	10/03/2003	Sorel Horovitz	MP0267	1345

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SAN JOSE, CA 95110-2731

EXAMINER
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DO, CHAT C

ART UNIT	PAPER NUMBER
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2193

MAIL DATE	DELIVERY MODE
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09/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/678,523

Applicant(s)

HOROVITZ, SOREL

Examiner

Chat C. Do

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-96 is/are pending in the application.
- 4a) Of the above claim(s) 1-6, 8-10, 15-18, 21, 26-28, 36-38, 43-45, 54-69, 71-73, 78-81, 83-96 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7, 11-14, 19, 20, 22-25, 29-37, 39-42, 46-53, 70, 74-77 and 82 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This communication is responsive to Amendment filed 07/19/2007.
2. Claims 1-96 are pending in this application. Claims 7 and 37 are independent claims. In Amendment, claims 1-6, 8-10, 15-18, 21, 26-28, 38, 41-45, 54-69, 71-73, 78-81, and 83-96 are previous withdrawn from consideration. This Office Action is made final.

#### *Claim Rejections - 35 USC § 101*

3. 35 U.S.C. 101 reads as follows:  
  
Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.
4. Claims 7, 11-14, 19-20, 22-25, 29-37, 39-42, 46-53, 70, 74-77, and 82 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 7, 11-14, 19-20, 22-25, 29-37, 39-42, 46-53, 70, 74-77, and 82 cite a method, apparatus, and software product for finding a next free bit in a register in accordance with an algorithm. In order for claims to be statutory, claims must either include a practical/physical application or a concrete, useful, and tangible result. However, claims 7, 11-14, 19-20, 22-25, 29-37, 39-42, 46-53, 70, 74-77, and 82 merely disclose steps/components for finding the free bit without further disclosing a practical/physical application or a useful and tangible result of finding the free bit since the claims appear to preempt every substantial practical application of the idea embodied by the claim and there is no cited limitation in the claims that breathes sufficient life and

meaning into the preamble so as to limit it to a particular practical application rather than being so broad and sweeping as to cover every substantial practical application of the idea embodied therein. Therefore, claims 7, 11-14, 19-20, 22-25, 29-37, 39-42, 46-53, 70, 74-77, and 82 are directed to non-statutory subject matter.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 7, 11, 13, 20, 22, 29-31, 33, 36-37, 39, 46-48, 50, 53, 70, 74, and 76 are rejected under 35 U.S.C. 102(a) as being anticipated by Ott (U.S. 6,477,552).

Re claim 7, Ott discloses in Figures 1-4 a method for finding a next free bit in a register having N bits and a current pointer pointing to one of the bits (e.g. abstract wherein the free bit is the zero bit within the nibble and N is equated to 32 bits in the source register rs1 as seen in Figures 1-2), the method comprising:

breaking the N bits of a check vector in the register into M parts, wherein N and M are integers and  $1 < M < N$  (e.g. Figure 2 wherein 32-bits of source register rs1 are break down into 8 parts and each part consists of 4 bits as nibble to corresponding nibble logics 22x); and

selecting an available part that has a free bit (e.g. output of the priority encoder in Figure 2 for selecting the part of 0 bit and col. 3 lines 1-25).

Re claim 11, Ott further discloses in Figures 1-4 the available part is a first part, having a free bit, to the left of the part pointed to by the current pointer (e.g. Figure 4 table).

Re claim 13, Ott further discloses in Figures 1-4 finding a free bit in the available part (e.g. abstract).

Re claim 20, it is an apparatus claim of claim 7. Thus, claim 20 is also rejected under the same rationale as cited in the rejection of rejected claim 7.

Re claim 22, it is an apparatus claim of claim 11. Thus, claim 22 is also rejected under the same rationale as cited in the rejection of rejected claim 11.

Re claim 29, it has similar limitations cited in claim 13. Thus, claim 29 is also rejected under the same rationale as cited in the rejection of rejected claim 13.

Re claim 30, it has similar limitations cited in claim 11. Thus, claim 30 is also rejected under the same rationale as cited in the rejection of rejected claim 11.

Re claim 31, it has similar limitations cited in claim 24. Thus, claim 31 is also rejected under the same rationale as cited in the rejection of rejected claim 24.

Re claim 33, Ott further discloses in Figures 1-4 the free bit finder finds a free bit from the beginning of the available part (e.g. Figure 4 table).

Re claim 36, Ott further discloses in Figures 1-4 a next vector generator for generating the next vector with the found free bit masked (e.g. output of Figure 2).

Re claim 37, it is a means apparatus claim of claim 20. Thus, claim 37 is also rejected under the same rationale as cited in the rejection of rejected claim 20.

Re claim 39, it is a means apparatus claim of claim 22. Thus, claim 39 is also rejected under the same rationale as cited in the rejection of rejected claim 22.

Re claim 46, it is a means apparatus claim of claim 29. Thus, claim 46 is also rejected under the same rationale as cited in the rejection of rejected claim 29.

Re claim 47, it is a means apparatus claim of claim 30. Thus, claim 47 is also rejected under the same rationale as cited in the rejection of rejected claim 30.

Re claim 48, it is a means apparatus claim of claim 31. Thus, claim 48 is also rejected under the same rationale as cited in the rejection of rejected claim 31.

Re claim 50, it is a means apparatus claim of claim 33. Thus, claim 50 is also rejected under the same rationale as cited in the rejection of rejected claim 33.

Re claim 53, it is a means apparatus claim of claim 36. Thus, claim 53 is also rejected under the same rationale as cited in the rejection of rejected claim 36.

Re claim 70, it is a computer software product claim of claim 7. Thus, claim 70 is also rejected under the same rationale as cited in the rejection of rejected claim 7.

Re claim 74, it is a computer software product claim of claim 11. Thus, claim 74 is also rejected under the same rationale as cited in the rejection of rejected claim 11.

Re claim 76, it is a computer software product claim of claim 13. Thus, claim 76 is also rejected under the same rationale as cited in the rejection of rejected claim 13.

### ***Response to Arguments***

7. Applicant's arguments filed 07/19/2007 have been fully considered but they are not persuasive.

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- a. The applicant argues in page 3-4 for claims rejected under 101 rejection that the claims are statutory since the purposes of finding a next free bit is to find a place in a register to put a bit.

The examiner respectfully submits that the purpose of finding a next free bit as cited above is clearly not seen in the claim or in the specification. In general, the claims either fail to clearly or expressively disclose practical application of finding the free bit. Finding a free bit in a register would not constitute as a practical application. The claims appear to preempt every substantial practical application of the idea of finding the free bit and there is no cited limitation in the claims that breathes sufficient life and meaning into the preamble so as to limit it to a particular practical application rather than being so broad and sweeping as to cover every substantial practical application of the idea embodied therein.

Therefore, claims are still rejected under 35 U.S.C. 101.

- b. The applicant argues repeatedly in page 4 last paragraph for all claims that the cited reference by Ott fails to disclose a next free bit in a register for any purpose.

The examiner respectfully submits that current claim language does not clearly disclose or require any particular purpose of finding a next free bit in a register. In addition, the claims do not clearly disclose what exactly is the free bit. Based on the original specification, the free bit in a register is the 0-bit within the register which the examiner is replying on to make the above rejection. Even though, the cited reference by Ott does not have the same terminology as free bit

in the reference, but Ott clearly teaches or discloses the same context of finding a next free bit in a register as to finding a zero bit in a register. To re-iterate, Ott clearly and expressively discloses in Figures 2-3 every limitations cited in the claims, particularly breaking the N-bits into multiple part (e.g. consider as nibble break-down) and selecting the nibble that has 0-bit (e.g. by the encoder) in Figure 2.

- c. The applicant argues in page 5 second and third paragraph for claims that the step of selecting a leading zero part does not identify a free bit in a register.

The examiner respectfully submits that the limitation “selecting an available part that has a free bit” in the claim does not automatically means identifying a free bit in a register, rather means to select a part that has free bit which is clearly seen in Figures 2-3 and table 1 in column 3 wherein the priority encoder will select corresponding to the nibble function that has all zero bits through the mux.

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period



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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do  
Examiner  
Art Unit 2193

August 27, 2007

A handwritten signature in black ink, appearing to be 'Chat C. Do', written in a cursive style.